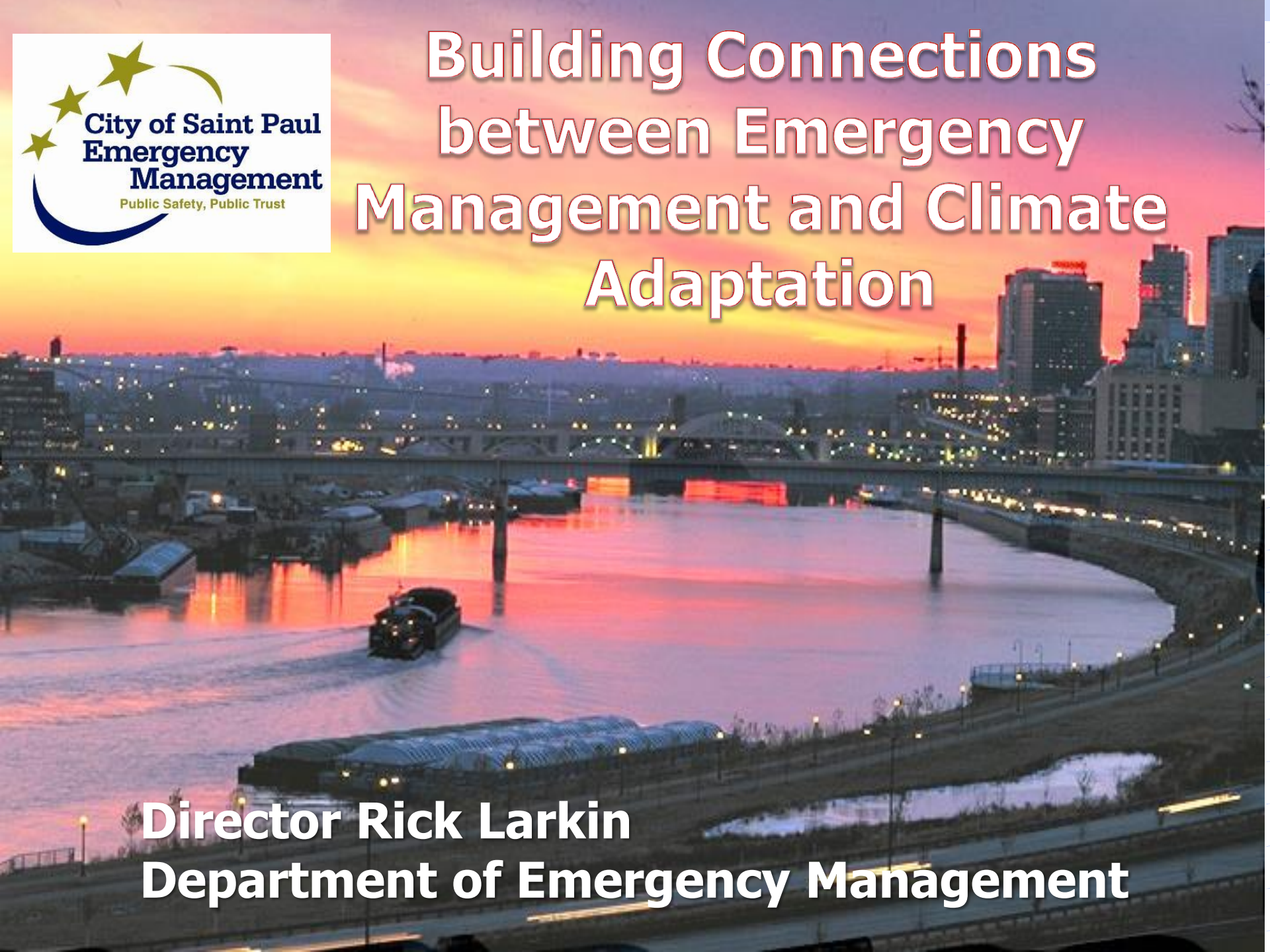

City of Saint Paul
Emergency
Management
Public Safety, Public Trust
Building Connections between Emergency Management and Climate Adaptation
Director Rick Larkin
Department of Emergency Management

Saint Paul Emergency Management

Responsible for coordination of the City's response to emergency situations and disasters such as:

- Severe Weather
- Flooding
- Hazardous Material Incidents
- Mass Casualty Incidents
- Acts of Terrorism
- Large National Events
- And much more…

Factors that reduce the City's ability to serve the population.

Top Climate Related Shocks: Flooding, thunderstorms, infrastructure failure, winter storms

Top Stresses: Old / Overwhelmed Infrastructure, Poverty, Lack of Funding, Lack of Trained Professionals

Rising Temperatures in Saint Paul

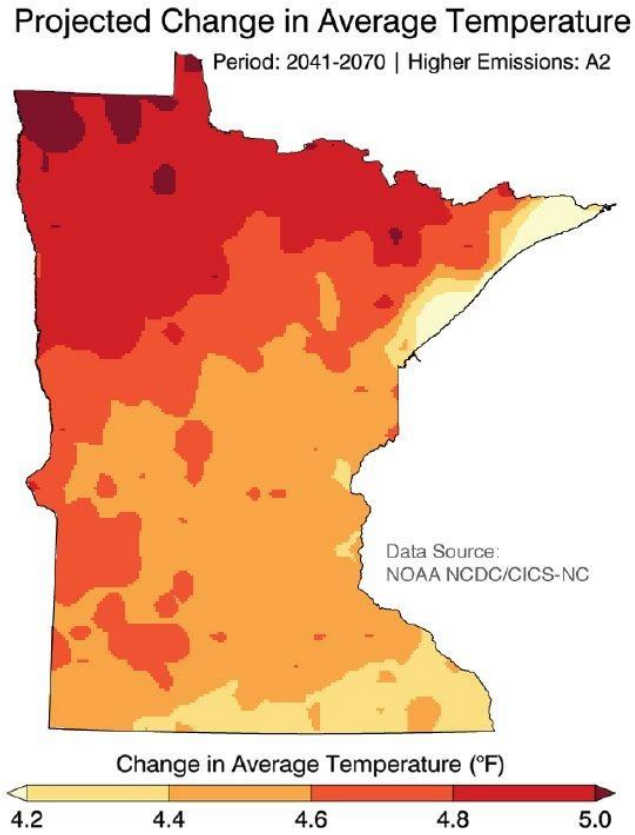
Average Temperature

3.2°F
1951-2012

Expect another
4°-5° F increase
by mid-century

95°F Days

6-12 more days per year



Data and images from Great Lakes Integrated Sciences + Assessments

Heat waves will increase in intensity and frequency.

- 25-35 more days annually over 90°F

  MORE HOSPITALIZATIONS AND HEAT RELATED DEATHS

- Doubling in the number of cooling degree days

  DRASTIC INCREASE IN ELECTRICITY BILLS

- Growing season increased by 25-35 days

  MAY ALTER CROPS IN THIS REGION

Source: Great Lakes Integrated Sciences + Assessments

Increasing Precipitation in Saint Paul

Total Precipitation

20.7%
1951-2012

Spring saw the greatest increase of 28% (1.9 inches)

Heavy Precipitation

58.3%
1951-2012

Since 1973 MN has had ten mega-rain events, six have been since 2004

Data from Great Lakes Integrated Sciences + Assessments, photo from the StarTribune

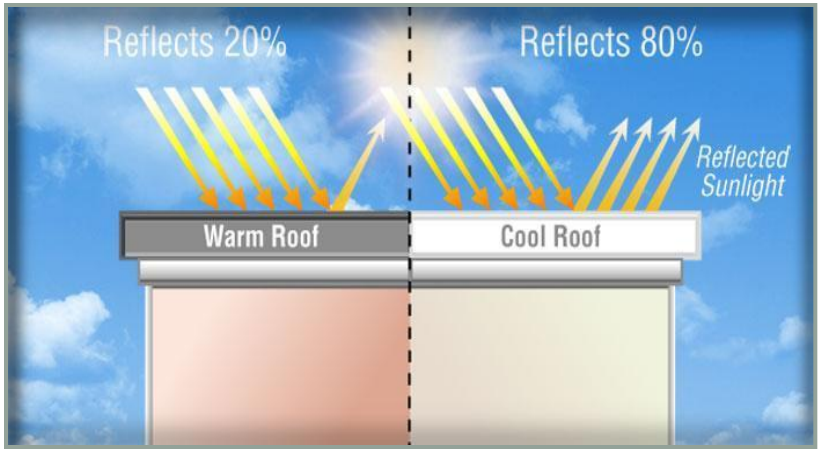
St. Paul will need to prepare for more and heavier rain events.

- 1-2 more days a year with precipitation events over 1.25”
  MORE COMBINED SEWER OVERFLOWS & FLASH FLOODS
- Increase in water treatment costs
  MORE GREEN/GREY INFRASTRUCTURE NEEDED
- Increase of 10-30% in Spring rain
  SEED MORE LIKELY TO BE WASHED AWAY

Source: Great Lakes Integrated Sciences + Assessments

BEST PRACTICES

Combat heat via air conditioning, cooling centers, green infrastructure & cool roofs.



Combat flooding via green and grey infrastructure.

GREEN

Yards that soak up and store water

Rain Barrels that store water

Roads that allow water to seep through them

GREY

Underground pipes

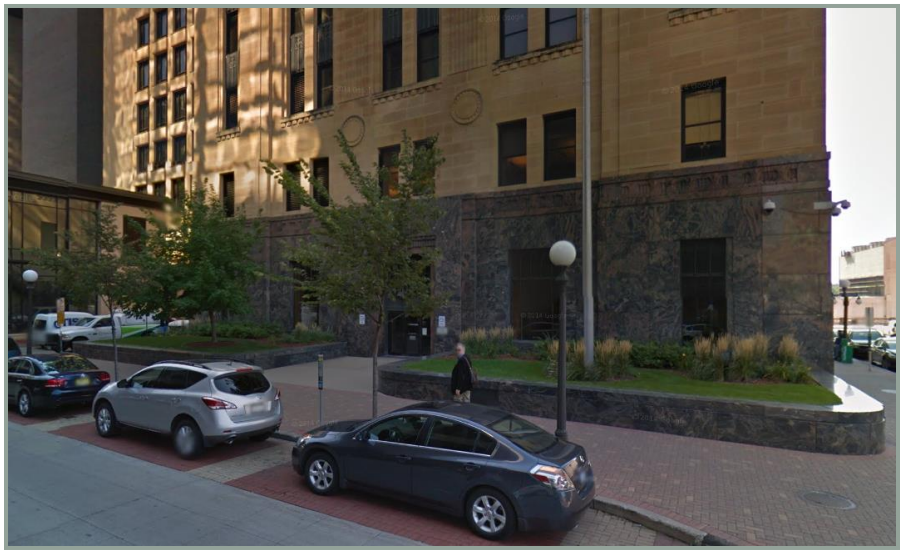
Sewers that move water

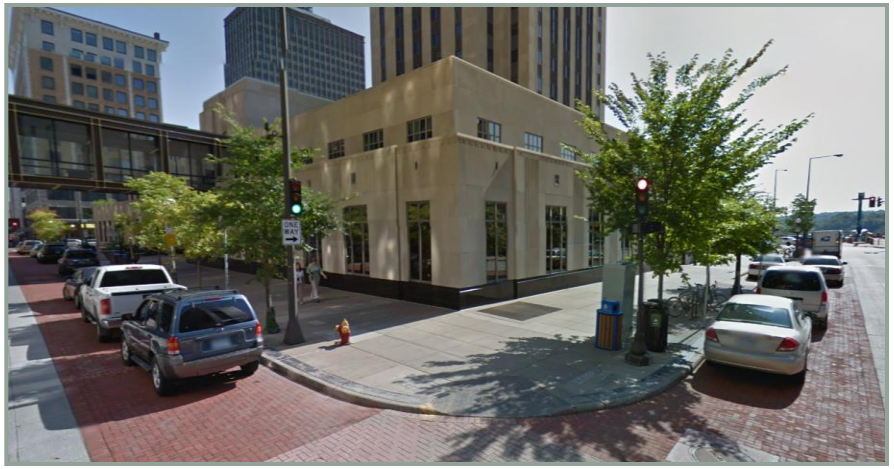
Water treatment facilities that clean water

Combat strong wind events via vegetation management and improved building codes.


There is hope…
Cities can lead by example.

Saint Paul is already a leader in green infrastructure.





Example 1:
Permeable Pavement

Example 2:
Green Roof

Acknowledgements

- Saint Paul Climate Project Team
  - Led by Anne Hunt and Lucy Angelis
- Steve Davis, President
  - All-Hands Consulting
- Daniel Brown, Climatologist
  - University of Michigan Climate Center, Great Lakes Integrated Sciences + Assessments (GLISA) danbro@umich.edu
- Kelly Klima, Research Scientist, Engineering and Public Policy
  - Carnegie Mellon University, Pittsburgh, PA
  - All-Hands Consulting
- Minnesota Pollution Control Agency Funding for a Resiliency Framework
  - Laura Millberg, Sustainable Development and Climate Resilience Planner

Thank you!

Rick Larkin

Rick.larkin@ci.stpaul.mn.us

651-266-5490